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## *Observations on the Planet Mars.* By J. N. Lockyer, Esq. (Abstract.*)

The author mentions that during the opposition of last year, in spite of the generally very unfavourable state of the weather, he was able to make a series of sketches which embraced a complete rotation of the planet; and that the opposition of last year, occurring on the 5th October in heliocentric longitude 12°, afforded the opportunity, among other things, of fairly comparing the series with the one taken by MM. Beer and Mädler in 1830, when the opposition took place the 19th September, in heliocentric longitude 356°. As regards the permanency of the features, the general result is that the two series of drawings agree in a marvellous manner, the author's very much larger instrument revealing no main feature which was not foreshadowed in the earlier series, although, from the greater light of his own telescope, he was enabled to study the details in a more satisfactory manner. But, although the complete fixity of the main features of the planet seems to be thus ascertained beyond all doubt, there occur daily, nay hourly, changes of detail, and in the tones of the different parts of the planet, both light and dark—changes which, he doubts not, are caused by the transit of clouds over the different features.

The larger part of the Memoir consists of comments on the drawings, and the comparison of them with the earlier series.

## *Results of the Meridional Observations of Small Planets; Occultation of a Star by the Moon; and Phenomena of Jupiter's Satellites; observed at the Royal Observatory, Greenwich, in the months of April and May,* 1863.

(*Communicated by the Astronomer Royal.*)

### *Astræa* ⑤.

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1863, April 1 | 9 9 5·8 | 9 47 59·70 | 73 14 55·73 |
| 2 | 9 5 17·8 | 9 48 7·59 | 73 14 3·28 |
| 7 | 8 46 45·0 | 9 49 14·56 | 73 12 21·02 |
| 18 | 8 8 28·3 | 9 54 13·62 | 73 25 28·52 |

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* The Memoir, with the accompanying drawings, or a selection from them, will probably appear in the volume of *Memoirs*. The drawings were exhibited at the Meeting of the Society.—Ed.

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## *Metis* ⑨.

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1863, May 13 | 13 20 27·4 | 16 45 37·84 | 111 51 40·16 |
| 21 | 12 41 16·0 | 16 37 52·48 | 111 52 27·18 |
| 22 | 12 36 18·6 | 16 36 50·80 | 111 52 21·44 |
| 23 | 12 31 20·8 | 16 35 48·75 | 111 52 14·02 |
| 25 | 12 21 23·4 | 16 33 42·78 | 111 51 57·23 |

## *Irene* ⑭.

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1863, April 7 | 9 21 44·7 | 10 24 19·96 | 64 43 7·77 |
| 13 | 8 58 11·5 | 10 24 22·20 | 65 12 29·61 |

## *Eunomia* ⑮.

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1863, April 7 | 12 25 40·0 | 13 28 45·53 | 117 34 4·92 |
| 20 | 11 22 43·5 | 13 16 53·86 | 116 35 0·70 |
| 23 | 11 8 17·2 | 13 14 14·79 | 116 17 42·81 |
| 30 | 10 34 58·1 | 13 8 26·15 | 115 33 51·84 |
| May 4 | 10 16 14·2 | 13 5 25·34 | 115 7 10·54 |
| 7 | 10 2 20·5 | 13 3 19·10 | 114 46 44·39 |

## *Psyche* ⑯.

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1863, April 7 | 13 44 35·1 | 14 47 53·57 | 102 7 0·74 |
| 16 | 13 3 16·5 | 14 41 57·17 | 101 31 40·09 |
| 20 | 12 44 37·5 | 14 39 1·28 | 101 15 4·27 |
| 23 | 12 30 33·3 | 14 36 44·41 | 101 2 26·86 |
| 25 | 12 21 8·9 | 14 35 11·62 | 100 54 2·75 |
| 28 | 12 7 0·6 | 14 32 50·66 | 100 41 25·34 |
| 30 | 11 57 34·8 | 14 31 16·43 | 100 33 7·65 |
| May 1 | 11 52 51·6 | 14 30 28·94 | 100 28 58·33 |
| 2 | 11 48 8·8 | 14 29 41·99 | 100 24 50·95 |
| 4 | 11 38 42·9 | 14 28 7·64 | 100 16 41·95 |
| 13 | 10 56 31·3 | 14 21 18·12 | 99 42 29·34 |
| 21 | 10 19 36·5 | 14 15 49·66 | 99 16 41·99 |
| 25 | 10 1 28·0 | 14 13 24·41 | 99 5 56·30 |
| 26 | 9 56 58·4 | 14 12 50·62 | 99 3 30·92 |

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## *Bellona* ㉘.

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1863, April 1 | 8 23 18·6 | 9 2 5·03 | 71 1 39·41 |

## *Harmonia* ㊵.

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1863, April 16 | 13 7 16·2 | 14 45 57·53 | 99 31 24·01 |
| 20 | 12 47 53·2 | 14 42 17·56 | 99 15 7·71 |
| 23 | 12 33 12·5 | 14 39 24·06 | 99 3 3·94 |
| 25 | 12 23 22·5 | 14 37 25·55 | 98 55 3·58 |
| 28 | 12 8 34·4 | 14 34 24·74 | 98 43 20·96 |
| 30 | 11 58 41·6 | 14 32 23·43 | 98 35 47·96 |
| May 1 | 11 53 45·0 | 14 31 22·56 | 98 32 7·53 |
| 2 | 11 48 48·8 | 14 30 22·12 | 98 28 28·57 |
| 4 | 11 38 56·1 | 14 28 20·83 | 98 21 26·91 |
| 7 | 11 24 10·0 | 14 25 22·00 | 98 11 32·79 |
| 8 | 11 19 15·4 | 14 24 23·15 | 98 8 27·66 |
| 13 | 10 54 52·8 | 14 19 39·37 | 97 54 41·76 |
| 21 | 10 16 43·4 | 14 12 56·12 | 97 39 28·71 |
| 22 | 10 12 2·8 | 14 12 11·31 | 97 38 13·24 |
| 23 | 10 7 23·6 | 14 11 27·86 | 97 37 12·66 |
| 25 | 9 58 9·7 | 14 10 5·63 | 97 35 27·66 |
| 26 | 9 53 35·2 | 14 9 26·94 | 97 34 54·25 |
| 28 | 9 44 30·6 | 14 8 13·95 | 97 34 9·68 |

## *Diana* (78).

| Mean Solar Time of Observation. | | R.A. from Observation. | N.P.D. from Observation. |
|---|---|---|---|
| | h m s | h m s | ° ′ ″ |
| 1863, April 15 | 10 0 8·2 | 11 34 22·23 | 96 10 13·04 |

All the observations of N.P.D. have been corrected for Refraction and Parallax.

## *Occultation of a Star by the Moon.*

| Day of Observation. | Phenomenon. | Moon's Limb. | Mean Solar Time. | Observer. |
|---|---|---|---|---|
| 1863. | | | h m s | |
| Apr. 26 | κ Cancri, disapp. | Dark | 9 44 24·0 | C. |
| 26 | κ Cancri, reapp. | Bright | 10 53 15·5 | C. |